

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: Conoco Phillips, Sweeny Refinery (a.k.a. Phillips 66 Company)
 Facility Address: P.O. Box 866, Sweeny, Texas 77480
 Facility EPA ID #: TXD048210645

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

If yes - check here and continue with #2 below.

If no - re-evaluate existing data, or

if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUNDDefinition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

2. Are groundwater, soil, surface water, sediments, or air media known or reasonably suspected to be “contaminated”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	___	_x	___	_____
Air (indoors) ²	___	_x	___	_____
Surface Soil (e.g., <2 ft)	___	_x	___	_____
Surface Water	___	___	___	_____
Sediment	___	_x	___	_____
Subsurf Soil (e.g., >2 ft)	___	_x	___	_____
Air (outdoors)	___	_x	___	_____

___x___ If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

_____ If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

Based on file review Conoco Phillips has closed the following regulated units, waste management units and areas of concern as follows:

Closure of regulated units include: East Landfarm (NOR 006) was certified closed as a landfill on September 1987; the West Landfarm (NOR 012) was closed as a landfill on 01-18-1999 with deed certification approved on 02-16-1999; the South Contaminated Ponds Nos. 1 and 2 (NOR 007) and Amine Pond (a.k.a. Amoco Pond) were certified closed and deed recordation approved under Risk Reduction Standard (RRS) 3 on 06-01-1998; the 1C Aeration Pond was closed under RRS 2 with deed recordation approved on 09-30-1996; the 1D Aeration Pond was closed under RRS 2 with deed recordation approved on 02-24-1997. In addition, the drum Storage Building (NOR 028) and Roll Off Storage Yard Area (NOR 029) were approved closed under RRS 2 on 03-28-2002 with deed recordation accepted on 08-02-2002; Interim status Tanks 462 and 463 were closed under Texas Risk Reduction Program (TRRP) Remedy Standard A - Residential w/ no institutional controls or post closure care requirements on 08-02-2002; and, Weathered Tank Bottom Storage Area closed under RRS 2 w acceptance of deed recordation on 02-13-2002.

Regarding groundwater releases, groundwater protection standards were developed for the East and West Landfarms, South Contaminated Ponds Nos. 1 and 2; and the Amine Pond in Compliance Plan CP-50186-001. The Compliance Plan requires permittee to conduct Compliance Monitoring for both the East and West Landfarms and Corrective Action Monitoring Program for South Contaminated Pond No. 2. The groundwater protection standards at all these units is currently being met based on review of the most current semiannual groundwater monitoring report dated 01-20-2003. On 07-18-2002 Conoco-Phillips submitted a demonstration request to discontinue corrective action at South Contaminated Ponds and switch to Compliance Monitoring Programs since the groundwater protections standards at this unit had been met for three consecutive years. The request was approved and Conoco Phillips was directed to submit a modification /amendment application to the existing compliance plan by 02-13-2003 to switch from corrective action to compliance monitoring for this unit.

With regards to the Solid Waste Management Units, the Phase 2 RFI was completed for Refinery Landfarm (North Refinery Landfarm which indicated there was only impacts to soil, and it was determined that the soils meet RRS 2 Medium-Specific Concentrations (MSCs). RRS 2 closure for this unit was approved on 07-27-1999. For the West Site which consists of FCC Catalyst Pond, Alky Pond and Oily Solids Ponds were closed in January 1991 and Phase II RFI was conducted. Review of the Phase II RFI, and Baseline Risk Assessment and Corrective Measures Study dated 11-24-1997 and subsequent revisions to these documents dated 09-18, 1999, 02-25-2000, 12-01-2000, 04-18-2002, indicate the closed units are protective. The proposed corrective measures includes cap maintenance and continued groundwater monitoring to verify no release to groundwater from these units.

Areas of concern: The November 1997 Phase II RFI for the spill site near the North Refinery Landfarm indicated that the soils meet RRS 2 which was approved on 07-27-1999.

Indoor Air: There are no structures located near any of these units or above or adjacent to groundwater with volatile contaminants.

Surface Water and sediments: There are no releases to surface water or sediments at this facility.

Outdoor Air: All referenced units have been closed and all releases to soil or groundwater meet risk based cleanup levels. Protective levels for soil consider volatilization and estimate that there can be no air release above protective levels.

Footnotes:

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

3. Are there complete pathways between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential Human Receptors (Under Current Conditions)

<u>“Contaminated” Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	---	---	---	---			---
Air (indoors)	---	---	---				
Soil (surface, e.g., <2 ft)	---	---		---	---	---	---
Surface Water	---	---				---	---
Sediment	---	---				---	---
Soil (subsurface e.g., >2 ft)				---	---		---
Air (outdoors)	---	---		---	---	---	

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated”) as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“___”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- _____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- _____ If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.
- _____ If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code

Rationale and Reference(s): _____

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

Page 4

4 Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be “significant”⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

_____ If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

_____ If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

_____ If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s): _____

⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 6

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Conoco Phillips Sweeny Refinery and Petrochemical Complex facility, EPA ID # TXD048210645, located at TX State Highway 35 and FM 524, Old Ocean, Texas under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by (signature) _____ Date 02-06-2003
(print) Maureen Hatfield _____
(title) Senior Project Manager _____

Supervisor (signature) _____ Date _____
(print) _____
(title) _____
(EPA Region or State) _____

Locations where References may be found:

Attach a copy of this facility's database printout. Highlight the reports which support the "YE" determination.

TCEQ Central Records and,
Conoco-Phillips Sweeny Refinery and Petrochemical Complex, Environmental Dept.

Contact telephone and e-mail numbers

(name) Dan Hunter, Environmental Team Leader
(phone #) 409-491-2216
(e-mail) dfhunte@ppco.com

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

